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A CASE REPORT AND LITERATURE REVIEW OF SPONTANEOUS PERFORATION OF PYOMETRA

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☐ Abstract—Background: Pyometra is defined as an accumulation of purulent material in the uterine cavity. Spontaneous perforation is a very rare complication of pyometra. The clinical findings of perforated pyometra are similar to perforation of the gastrointestinal tract and other causes of acute abdomen. Case Report: We report a rare and difficult case of peritonitis in an elderly female that was caused by a spontaneous perforation of pyometra. A 90-year-old postmenopausal woman was referred to our hospital with complaints of vomiting, fever, and abdominal pain. Computed tomography revealed a large amount of ascites, cystic mass in the uterus, and intraperitoneal and intrauterine air. Transvaginal ultrasound demonstrated a thin area around the fundus. An emergency laparotomy was performed for the suspected gastrointestinal perforation or perforation of pyometra. At laparotomy, copious purulent fluid was present in the peritoneal cavity; however, no perforation of the gastrointestinal tract was observed. We identified a perforation site over the uterine fundus and purulent material exuding from the cavity. Subsequently, hysterectomy and bilateral salpingo-oophorectomy were performed. The patient was discharged on postoperative day 13 with no complications. Histopathologic studies revealed endometritis and myometritis with no evidence of malignancy. Why Should an Emergency Physician Be Aware of This?: With diffuse peritonitis, ruptured pyometra should be considered, even in elderly female patients. This case illustrates the importance of clinical knowledge of acute

gynecologic diseases. Here we also review the perforation of pyometra with no evidence of malignancy. © 2016 Elsevier Inc.

☐ Keywords—pyometra; perforation; intrauterine air

INTRODUCTION

Pyometra is a rare condition defined as the accumulation of purulent material in the uterine cavity because of the interference with the natural drainage of the uterus (1). Pyometra is reported to occur in 0.1%-0.2% of all gynecologic patients and in 13.6% of elderly gynecologic outpatients (2,3). This condition is commonly caused by malignant or benign gynecologic tumors, radiation cervicitis, atrophic cervicitis with aging, and the use of an intrauterine device (IUD) (4-6). More than 50% of patients with an unruptured pyometra are asymptomatic, and spontaneous perforation pyometra is very rare (7-9). However, once ruptured, the patient develops an acute abdomen and generalized peritonitis. Because of the nonspecific symptoms associated with rupture, an accurate diagnosis is often challenging (10-12). Some reports have stated that only

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16%–33% of cases are suspected with perforation of pyometra and that the associated mortality rate is as high as 25%–40% (10,11). Here we report a case of diffuse peritonitis caused by spontaneously perforated pyometra in a patient who was preoperatively diagnosed and successfully treated by emergency laparotomy.

CASE REPORT

A 90-year-old, multiparous, postmenopausal woman with a history of hypertension, diabetes mellitus, and atrial fibrillation was transferred to our hospital complaining of acute abdominal pain, vomiting, and fever. Her gynecologic history was unremarkable. Seven days before admission, she had increased vaginal discharge and had been treated for vaginitis with chloramphenicol. On the day of admission, she presented with fever, vomiting, and sudden abdominal pain; therefore, she was transferred to our hospital from a nursing home with suspicion of aspiration pneumonia. On physical examination, the patient appeared ill. Her body temperature was 37.9°C, pulse rate was irregular at 164 beats/min, blood pressure was 147/88 mm Hg, respiratory rate was 30 breaths/min, and oxygen saturation was 91% (oxygen mask 4 L/min). Her abdomen was distended and showed muscle rigidity. Rebound tenderness was absent, and bowel sounds were hypoactive. Laboratory studies revealed that white blood cell count, C-reactive protein, and D-dimer levels were elevated at $12,600/\mu L$, 9.7 mg/mL, and 13.2 µg/mL, respectively. Ultrasonography of the abdomen demonstrated a large volume of ascites in Morrison's and Douglas' pouches and a cystic mass in her uterus. Computed tomography (CT) revealed not only the presence of free intraperitoneal air, mostly in the lower abdomen, and a large volume of free fluid in the pelvis, but also a fluid-filled uterus harboring free air (Figure 1A-C). Transvaginal ultrasonography demonstrated a thin area around the fundus of the uterus, which resembled perforation of pyometra (Figure 2). Although perforation of pyometra was suspected, the patient was temporally diagnosed as having diffuse peritonitis due to the perforated gastrointestinal (GI) tract because GI tract perforation is much more common than perforation of pyometra. After prompt resuscitation and intravenous antibiotics, an emergency laparotomy was performed. A copious amount of purulent fluid was located in the peritoneal cavity; however, investigation of the GI tract and gallbladder failed to reveal the site of perforation. During peritoneal lavage, we identified a perforation with a diameter of 1.0 cm over the fundus of the uterus and purulent material exuding from the cavity (Figure 3A). The patient was diagnosed with perforation of pyometra, then abdominal hysterectomy and bilateral

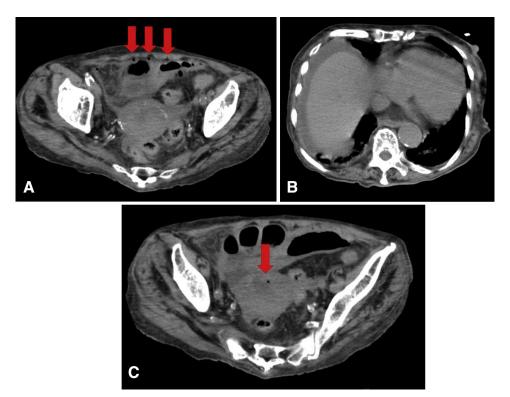


Figure 1. Abdominal computed tomography without contrast revealed the presence of free intraperitoneal air, primarily in the lower abdomen (A). There was a large volume of free fluid in the pelvic cavity (B). The uterus contained both fluid and free air (C).

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